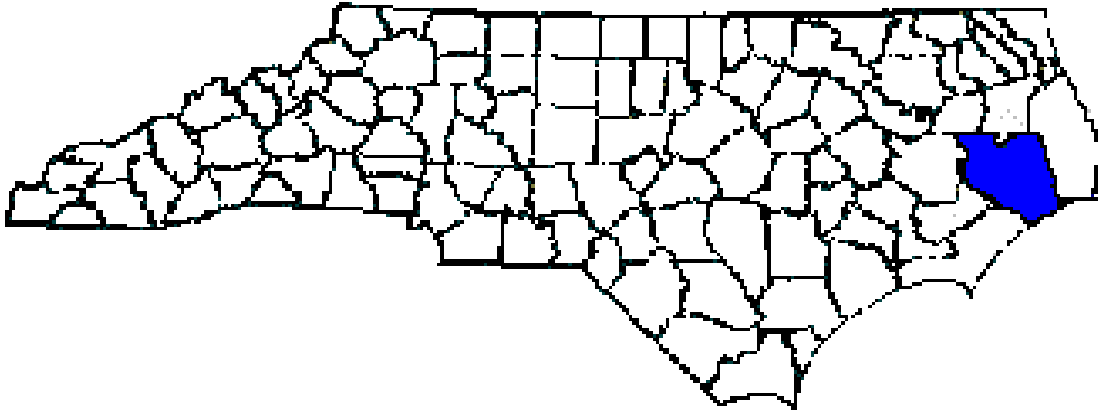


ANNUAL REPORT FOR 2012



Kitty Creek & Wallace Canal
Hyde County
TIP No. B-3348
COE Action ID: 200411262
DWQ Project #: 040314
CAMA permit No. 100-04



Prepared By:
Natural Environment Section & Roadside Environmental Unit
North Carolina Department of Transportation
December 2012

TABLE OF CONTENTS

SUMMARY	1
1.0 Introduction	2
.1 Project Description	2
.2 Purpose	2
.3 Project History	2
.4 Debit Ledger.....	3
2.0 Hydrology:	4
.1 Success Criteria	4
.2 Hydrologic Description.....	4
.3 Results of Hydrologic Monitoring	4
.1 Site Data	4
.2 Climatic Data.....	4
.4 Conclusions.	4
3.0 Vegetation:	5
.1 Success Criteria	5
.2 Description of Species.....	5
.3 Results of Vegetation Monitoring	5
.4 Conclusions.	5
4.0 Overall Conclusions and Recommendations	5

FIGURES

Figure 1 – Site Location Map	6
------------------------------------	---

APPENDICES

Appendix A – Gauge Data Graphs

Appendix B – Site Photos

SUMMARY

The Kitty Creek & Wallace Canal Mitigation Site (B-3348) is located in Hyde County. The site was planted in May 2008 and was designed as wetland mitigation for impacts associated with bridge project B-3348.

The North Carolina Department of Transportation (NCDOT) will mitigate the project impacts by restoring 0.26 acres of wetlands associated with the causeway removal and bridge replacement for this project. Approximately 0.64 acres of wetlands will be restored at this project location with 0.26 acres being utilized for this project and another 0.14 acres being utilized for TIP No. B-3349 (Action I.D. #200411264). The restoration area was re-vegetated with native brackish marsh plant species.

In accordance with the Division of Coastal Management permit (Permit # 100-04), if the excess mitigation generated by this project is to be used as mitigation for impacts of future projects, written concurrence must be obtained from DCM that post-construction monitoring demonstrates that vegetative and hydrologic success criteria have been met. Vegetative and hydrologic monitoring data shall be made available to DCM at such time as the site is proposed for use as mitigation for future projects.

During the 2010 annual monitoring meeting, NCDOT committed to installing two surface water gauges to record surface water flow and patterns of inundation at the site. The gauges were installed in March 2011 to monitor hydrology at the site. The hydrologic data recorded during 2012 is discussed in Section 2.0.

After the fifth year of monitoring, the Kitty Creek & Wallace Canal Mitigation Site shows by visual observation that the restoration area is re-attaining wetland jurisdictional status and marsh species planted in the wetland restoration area are surviving in the planted areas. Hydrologic data shows that both surface water gauges showed periods of inundation during the 2012 monitoring year.

NCDOT proposes to discontinue all monitoring activities at the Kitty Creek & Wallace Canal Mitigation Site.

1.0 INTRODUCTION

1.1 Project Description

The Kitty Creek & Wallace Canal Mitigation Site is located at Bridge No's. 52 and 54 on US 264 over Kitty Creek and Wallace Canal (Figure 1). The site consists of approximately 0.64 acres of mitigation.

1.2 Purpose

In order for a mitigation site to be considered successful, the site must meet visual success criteria for five years. This report details the fifth year of visual vegetation and hydrologic monitoring at the Kitty Creek & Wallace Canal Mitigation Site.

1.3 Project History

April 2008	Phragmites Treated
May 2008	Site Planted
July 2008	Visual Monitoring (1 year)
August 2009	Phragmites Treated
August 2009	Visual Monitoring (2 year)
August 2010	Phragmites Treated
August 2010	Visual Monitoring (3 year)
March 2011	Gauges Installed
March-December 2011	Hydrologic Monitoring (1 year)
July 2011	Phragmites Treated
July 2011	Visual Monitoring (4 year)
February-December 2012	Hydrologic Monitoring (2 year)
July 2012	Visual Monitoring (5 year)

1.4 Debit Ledger

Site name	Site TIP	HUC	River Basin	Division	County	Mitigation Type	Notes	As Built Quantity	Available	Debit	Debit
Kitty Crk. & Wallace Canal on US 264	B-3348	3020105	Tar-Pamlico	1	Hyde					B-3348	B-3349
						Marsh Restoration		0.64	0.24	0.26	0.14

Note: Debit ledger information up to date as of December 19, 2012.

2.0 HYDROLOGY

2.1 Success Criteria

There were no hydrologic success criteria established for the Kitty Creek and Wallace Canal mitigation Site. In order to use the excess mitigation that has been generated at the site, NCDOT committed during 2010 annual monitoring meeting to installing two surface water gauges to record surface water flow and patterns of inundation at the site. The gauges were installed in March 2011 to monitor hydrology at the site. Groundwater monitoring is not required at this site since it is a wind driven tidal system.

2.2 Hydrologic Description

Wind-driven tides are the primary hydrologic input at the Kitty Creek and Wallace Canal Mitigation Site. Two surface water monitoring gauges were installed within the restoration site in March 2011. The surface gauges record surface water levels every four hours on a daily basis. Monitoring data for 2012 represents the second year of hydrologic monitoring for the site.

2.3 Results of Hydrologic Monitoring

2.3.1 Site Data

Appendix A contains plots of the data at each surface gauge location. The set of plots shows the surface water elevation recorded against the actual gauge elevation surveyed relative to mean sea level. Both of the surface gauges show that the site is demonstrating frequent periods of inundation.

2.3.2 Climatic Data

Precipitation is not the primary hydrologic input for this site and was not included in this report. It is expected that the site would show the required periods of inundation regardless of area rainfall totals.

2.4 Conclusions

The 2012-year represents the second year of hydrologic monitoring for the Kitty Creek and Wallace Canal Mitigation Site. Both surface water gauges showed periods of inundation during the 2012 monitoring year.

NCDOT proposes to discontinue hydrologic monitoring at the Kitty Creek and Wallace Canal Mitigation Site.

3.0 VEGETATION: KITTY CREEK & WALLACE CANAL MITIGATION SITE (YEAR 5 MONITORING)

3.1 Success Criteria

NCDOT shall monitor the restoration site by visual observation and photo points for survival. The site success will be evaluated to assess whether at least 75% of the area is covered with the target vegetation. NCDOT shall monitor the site for five years or until the site is deemed successful. Monitoring will be initiated upon completion of the site planting.

3.2 Description of Species

The following tree species were planted in the Wetland Restoration area:

Juncus roemerianus, Black Needlerush

Spartina patens, Salt Meadow Cordgrass

Spartina cynosuroides, Big Cordgrass

3.3 Results of Vegetation Monitoring

The wetland restoration area is re-attaining jurisdictional status and the planted species are surviving in the planted areas. The planted species are continuing to spread throughout the site.

Site Notes: Other species noted: *Scirpus robustus*, *Baccharis* sp., marsh-elder, *Spartina alterniflora*, phragmites, saltgrass, and various other grasses. The phragmites that was noted on site prior to the site being planted was treated on April 18, 2008. Since, then phragmites noted on site has been treated on August 25, 2009, August 6, 2010, July 13, 2011, June 7, 2012, and August 29, 2012. The phragmites noted on site has been minimal throughout the monitoring period but NCDOT has continued to treat the phragmites to prevent further spreading.

3.4 Conclusions

There were approximately 0.64 acres total of wetland restoration on site. There were no plots established on the site. By visual observation, the Kitty Creek & Wallace Canal Mitigation Site shows that the planted species are surviving in the planted areas and that the restoration area is re-attaining wetland jurisdictional status.

4.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS

NCDOT proposes to discontinue hydrologic and vegetation monitoring at the Kitty Creek & Wallace Canal Mitigation Site.



Figure 1. Site Location Map

APPENDIX A

GAUGE DATA GRAPHS

APPENDIX B

SITE PHOTOS

Kitty Creek & Wallace Canal



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5
June 2012



Photo 6

Kitty Creek & Wallace Canal



Photo 7



Photo 8